

# RESIDENTIAL BUILDING CONSISTENCY

February 7, 2018



# AGENDA

- ▶ Monthly Building Consistency Meeting  
Dates for FY18
- ▶ Residential Consistency Items
- ▶ Training Sessions –
  - ▶ **Changes to General Contracting Law** –  
Waties Greene, NCLBGC
  - ▶ **Fireblocking and Draftstopping** –  
Jeff Griffin

# FY 2018 BUILDING CONSISTENCY MEETINGS

## Commercial

- Feb 6
- Mar 6
- Apr 3
- May 1
- Jun 5

## Residential

- Feb 7
  - Mar 7
  - Apr 4
  - May 2
  - Jun 6
- 

# RESIDENTIAL CONSISTENCY

February 7, 2018



Q: Who passed this stair?  
How many code violations can  
you cite?

A: R311 & R312



# OPEN ITEMS

- ▶ Re-visit Isokern Fireplaces
  - ▶ Contacts for help with plans or inspections
- 
- A series of four parallel white diagonal lines in the bottom right corner of the slide, slanting upwards from left to right.



**Q: Which trade looks at Isokern Fireplaces and the loads they add to the building?**

**A:** Per conversation with Tommy Rowland, if there is no gas line involved, it falls to the Building Inspector. Must have engineering to cover the loads on wood floors. Follow Mfr's installation instructions for flue & fireblocking.





# Q: What are the required clearances for foam insulation?

**R316.3 Surface burning characteristics.** Unless otherwise allowed in Section R316.5 or R316.6, all foam plastic or foam plastic cores used as a component in manufactured assemblies used in building construction shall have a flame spread index of not more than 75 and shall have a smoke-developed index of not more than 450 when tested in the maximum thickness intended for use in accordance with ASTM E 84 or UL 723. Loose-fill type foam plastic insulation shall be tested as board stock for the flame spread index and smoke-developed index.

**Exception:** Foam plastic insulation more than 4 inches (102 mm) thick shall have a maximum flame spread index of 75 and a smoke-developed index of 450 where tested at a minimum thickness of 4 inches (102 mm), provided the end use is *approved* in accordance with Section R316.6 using the thickness and density intended for use.

**R316.4 Thermal barrier.** Unless otherwise allowed in Section R316.5 or Section R316.6, foam plastic shall be separated from the interior of a building by an *approved* thermal barrier of minimum  $\frac{1}{2}$  inch (12.7 mm) gypsum wallboard or an *approved* finish material equivalent to a thermal barrier material that will limit the average temperature rise of the unexposed surface to no more than 250°F (139°C) after 15 minutes of fire exposure complying with the ASTM E 119 or UL 263 standard time temperature curve. The thermal barrier shall be installed in such a manner that it will remain in place for 15 minutes based on NFPA 286 with the acceptance criteria of Section R302.9.4, FM 4880, UL 1040 or UL 1715.

A: Depends on the foam & the fireplace





**Note:** Isokern has a 1 1/2" Clearance to combustibles.

**There is also a 3" clearance to any insulation material having an R-Value.**

## Required Clearance to Combustibles

The fireplaces and DM chimney systems are tested and listed for installation with "clearance to combustibles" as follows:

The Isokern Standard and Magnum Series firebox side walls and back wall require 1-1/2" clearance. (Figures 3 & 4)

The smoke dome front wall requires 0" clearance.

All DM chimney components require 0" clearance to combustibles. (Figure 3)

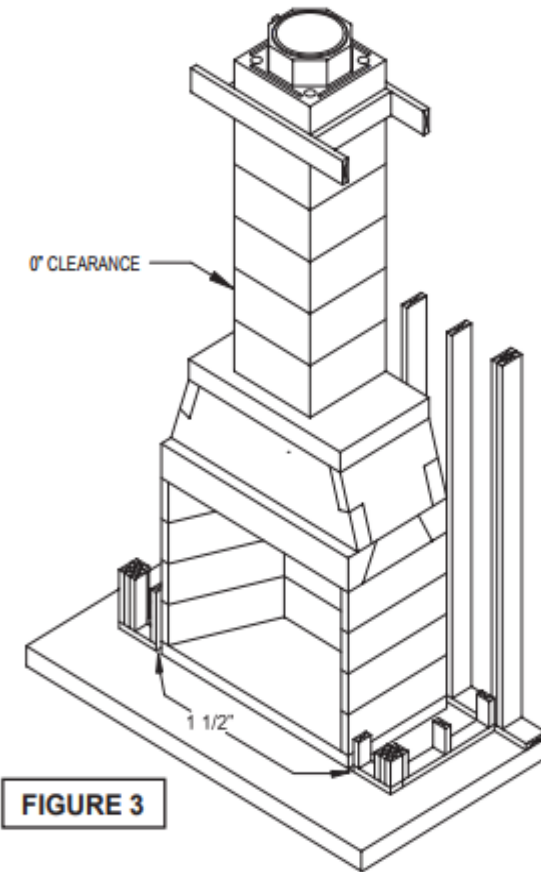
**Note:** "Combustibles" are defined as "normal construction materials" and are considered to be: wood framing materials, particle board, mill board, plywood sub-flooring, plywood paneling and wood flooring.

Sheathing materials, such as plywood, particle board and drywall may cover the smoke dome front at 0" clearance. All combustible sheathing materials that protrude beyond front of firebox must be held 8" away from the sides of the firebox opening and 8" above the top of the firebox opening.

Wherever insulation is used, the Fireplaces must not be placed directly against it. **Keep all insulation, vapor barriers, "house wrap" paper and other insulating type membranes and products, including fiberglass, cellulose and other insulation, (anything that carries an "R" rating) a minimum of three inches (3") away from all firebox and chimney surfaces.**

### Exception:

If insulation is used in walls surrounding the fireplace, insulation may be installed behind sheathing of gypsum board, plywood, particle board or other material on the side facing the Isokern. The facing material cannot be within 1 1/2" to the fireplace sidewalls.



***Q: Who can I contact for help with my project / plans?***

**A: In Plan Review –**

- **Commercial Plan Review Team –**  
**TOM SMITH, Manager 980 314 3108**  
**Michael Peterson, Sr. Plans Examiner (B) 980.314.3186**  
**Errol Cooper Sr. Plans Examiner (E) 980.314.3178**
- **Andy Scoggins, Sr. Plans Examiner (M)**
- **CTAC/RTAC –**  
**CHARLES WALKER, Manager 980.314.3107**  
**Scott Westbrook, Sr. Plans Examiner 980.314.3114**

***Q: Who can I contact for help with my project / plans?***

**A: Plan Review & Inspections (Special Teams)**

- **HCD Team –**

**HOWARD GRINDSTAFF, Manager 980.314.3171**

**Clay Goodman, Sr. Plans Examiner 980.314.3174**

- **Mega Team –**

**ANDY HERRING, Manager 980.722.9259**

**David Rains, Sr. Code Official (E ) 704.309.4510**

**Eric Moore, Sr. Code Official (B) 980.314.3357**

**Q: Who can I contact for help with my project / plans?**

**A: Inspections –**

- **Residential Team –**

**JEFF GRIFFIN, Manager 704.634.8847**

**Mike Kale, Sr. Inspector (E ) 980.521.6757**

**Brandon Burgin, Sr. Inspector (B) 980.259.9200**

**Dave Barrett, Sr. Inspector (P&M) 980.722.0259**

- **Commercial Team –**

**STEVE PEARSON, Manager 980.314.3062**

**Bob Hartman, Sr. Inspector (E ) 980.722.3618**

**Andy DeMaury, Sr. Inspector (M&P) 704.200.5595**

**Allen Croom, Sr. Inspector (B) 980 297 5839**



# NEW RESIDENTIAL CONSISTENCY ITEMS

February 6, 2018



# **New Residential Consistency Items**

**Q: Can we use the 2018 code now?**

**Q: When a referenced standard or requirements from another agency conflict with code, which one prevails?**

**Q: What are some of the Recent issues that have come up with emergency escape and rescue Openings?**

**Q: What is the requirement for placing concrete in cold weather?**

# ***New Commercial Consistency Items***


**Q: What is an alternate way to achieve fire separation in a duplex if the wall does not go to the underside of the roof sheathing?**

**Q: *Where can FSD be measured from?***

**Q: *How can something be turned down in the field when the plans were approved?***



# Q: CAN WE USE THE 2018 CODE NOW?

 **MECKLENBURG COUNTY Code Enforcement**

**REQUEST FOR ALTERNATE METHOD / MATERIAL**

**Project Information:**

Residential Single Family Project: Y N	Commercial Project: Y N
Code Enforcement Project No:	Permit No:
Project Name:	Owner:
Project Address:	Suite No:
Date Requested:	

**Person Requesting the Alternate Method / Material:**

Name:		
Requestor's Association with the Project:		
Phone Numbers:	Office:	Mobile:
Email Address:		
Mailing Address:		

**Registered Design Professional in Responsible Charge (RDPIRC):**  
(Architects or Engineers must be licensed in the State of North Carolina)

Name:		
Firm Name:		
Phone Numbers:	Office:	Mobile:
Email Address:		
Mailing Address:		

**Code Section(s) for Which the Alternate is Being Requested:**

Trade(s)	Code Year	Section Number & Title
B E M P		
B E M P		

**Reason for Alternate Request:** \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Revised 2/15/2017

A: By state law, the 2018 code is allowed to be used as an alternate between now and its effective date (Jan 1, 2019) without any special “permission” from anyone, however, the full body of codes must be used as a whole on the project. In other words, the 2014 NEC, the 2018 Plumbing, 2018 Mechanical, etc. You couldn't just use the 2018 Building and not use the rest. Another thing to note is Neither our software nor our permit applications have been changed yet to show the 2018 Code as an option.

The other problem is we are not expecting printed copies of the 2018 until July 1, 2018. That being said, we don't have the complete text to review plans by or to perform our inspections.

So, to answer the question, yes, theoretically, but maybe not practically.

If I can approach the question another way – If there is a specific code section in the 2018 that you want to use, we may be able to pull that out and use it as an alternate under the current code.



# Q: WHEN A REFERENCED RULE FROM ANOTHER AGENCY CONFLICTS WITH CODE, WHICH ONE PREVAILS?

A: According to the General Statutes, the Code prevails. (G.S. 143-138 (b7)) We use information from other agencies as a guide or for information only, but their requirements do not supersede the Code.



**SAFE KIDS NORTH CAROLINA**

NC DEPARTMENT OF INSURANCE  
MIKE CAUSEY - COMMISSIONER  
Mike Causey, Chair

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PARENTS AND CAREGIVERS | TEACHERS | SAFETY PROFESSIONALS

### water and pool safety for parents and caregivers

**Did you know...**

- The U.S. Consumer Product Safety Commission (CPSC) estimates each year nearly 300 children younger than **five** drown in swimming pools and spas?
- More than 3,000 children of that age go to hospital emergency rooms due to non-fatal submersion injuries? An unknown number of these hospitalizations result in permanent disability, including brain damage.

**Use these tips to ensure that you and the children in your care are safe around water:**

- Always actively supervise children in and around water. Don't leave, even for a moment.
  - Stay where you can see, hear and reach kids in water. Avoid talking on the phone, preparing a meal, reading and other distractions.
  - Children should swim only in designated and supervised swimming areas.
  - Teach children never to swim alone.
- **Use barriers to keep kids away from water when you're not around.**
  - **Four-sided isolation fencing, at least five feet high and equipped with self-closing and self-latching gates, should be installed around all pools (including inflatable pools) and spas. Fencing should completely enclose the pool or spa and prevent direct access from a house or yard.**

**SAFE KIDS NC RESOURCES**

- Find an Open Heart Medicine Drop event in your community
- Latest Product Recalls from the Consumer Product Safety Commission
- Download the Free FBI Child ID App
- Know the Signs & Prevent CO Poisoning
- Sparky the Fire Dog Fire & Burn Prevention App

**SAFE KIDS NC PRESS RELEASES**

- January 3, 2018 -- Keeping families safe when traveling in winter weather
- December 18, 2017 -- Top 5 travel tips to help kids stay injury free during the holidays
- November 20, 2017 -- Top holiday safety tips to keep children safe and injury free
- November 8, 2017 -- 400 People Killed Every Year Due to Unintentional Carbon Monoxide Poisoning
- October 27, 2017 -- 10 easy things you can do to keep kids safe on Halloween
- More...

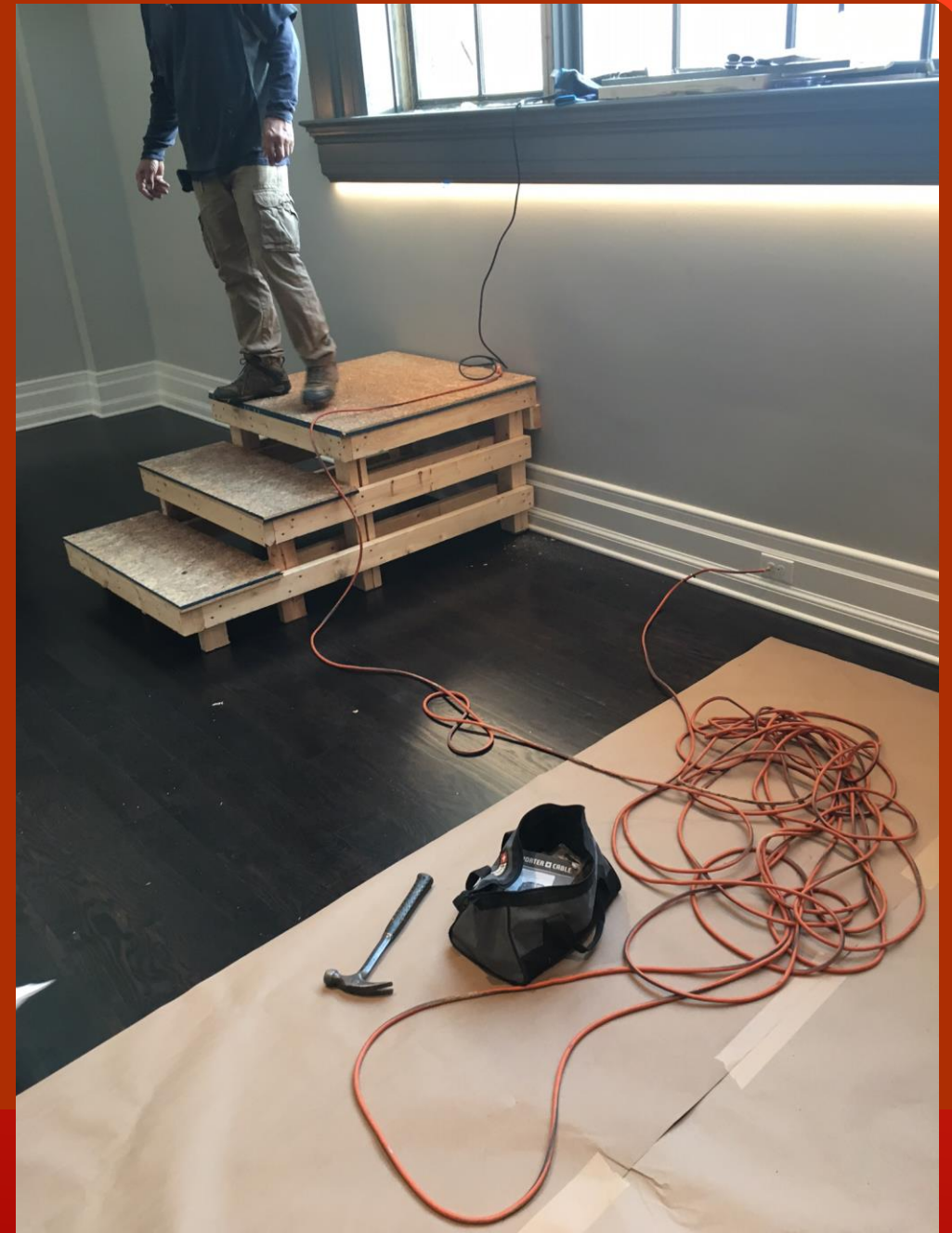
(b7) The Code may include references to such other rules of special types, such as those of the Medical Care Commission and the Department of Public Instruction as may be useful to persons using the Code. No rule issued by any agency other than the Building Code Council shall be construed as a part of the Code, nor supersede that Code, it being intended that they be presented with the Code for information only.

Safe  
Kids

Q: WHAT ARE SOME OF THE RECENT ISSUES THAT HAVE COME UP WITH EMERGENCY ESCAPE AND RESCUE OPENINGS?

Problem: sill heights for windows are greater than 44".

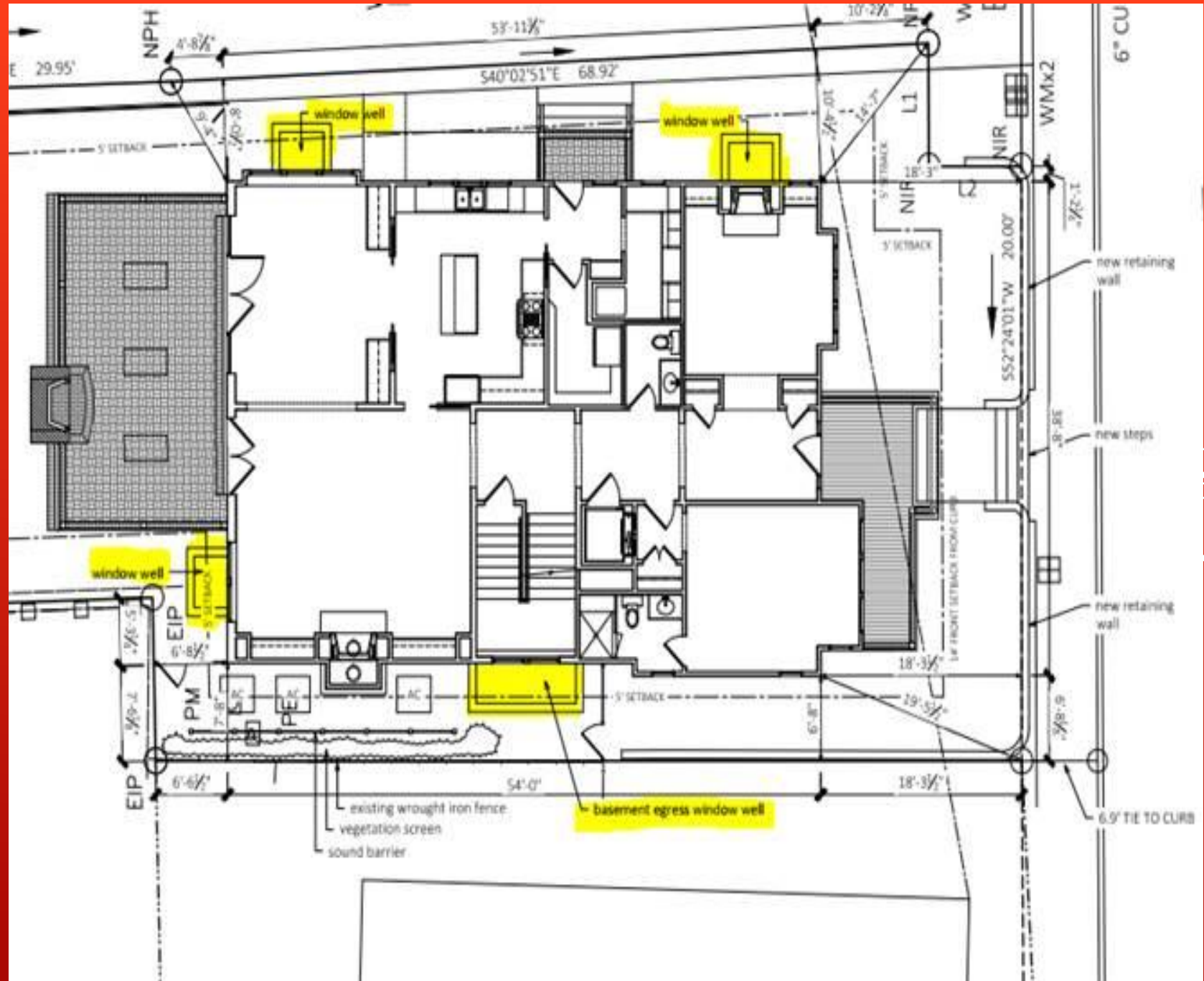
Solution: a “permanent” platform.  
NOT!





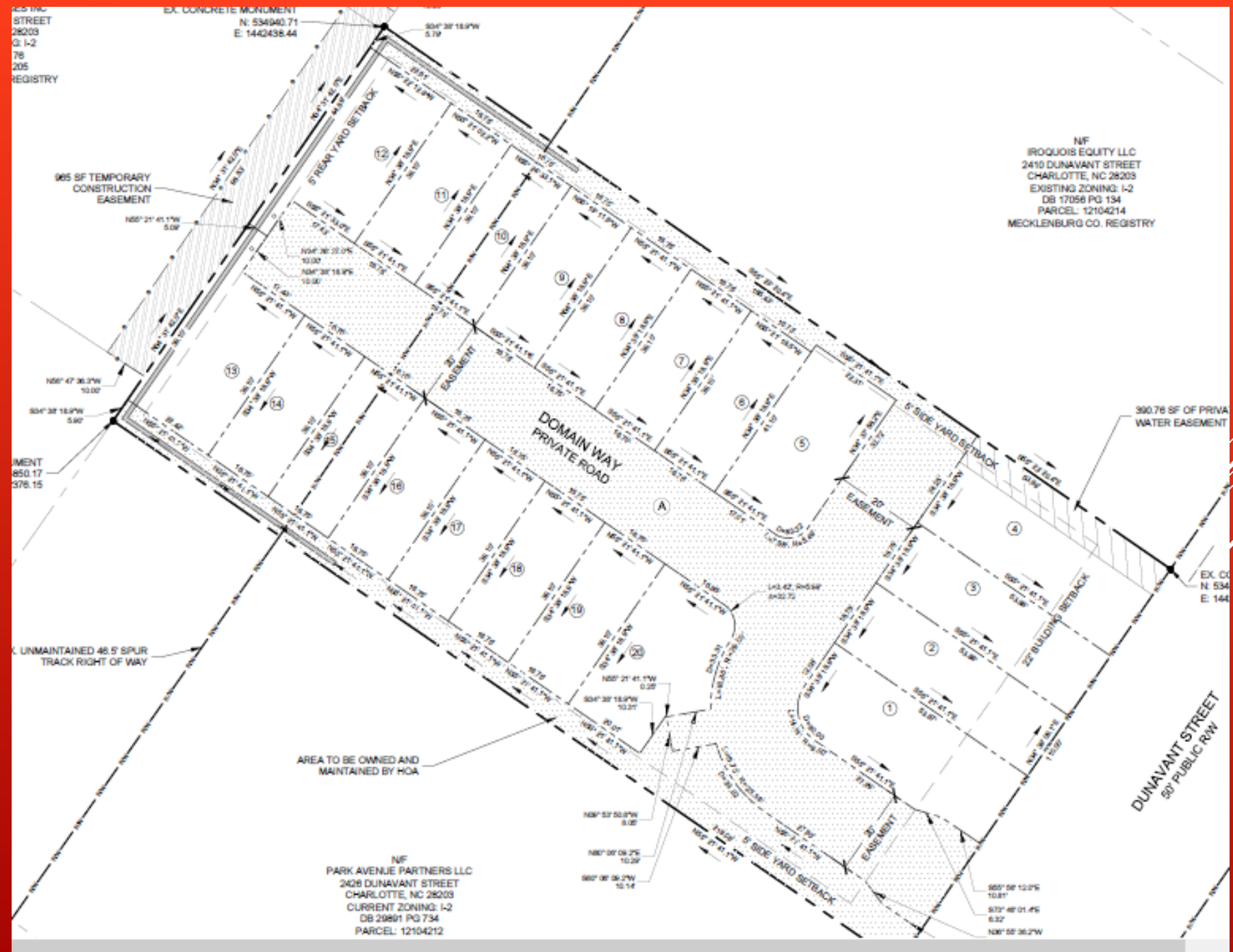
Problem: Four window wells varying in depth from 4' to 6' deep. At least one is for basement egress. Do they need guards around them for fall protection?

A: Not unless there is a walking surface within 3'. (similar to retaining wall requirements)



Problem: Emergency escape windows are on the back of the units which have fences and gates. Gates can be locked to prevent access to public way.

Solution: Common area at back of TH's was taken over by the HOA so it is left open at all times for access to public way.





# Q: WHAT IS THE REQUIREMENT FOR PLACING CONCRETE IN COLD WEATHER?

A: To be considered “cold weather” for concrete placement, the following conditions must exist for **3 consecutive days**:

1. The average daily air temperature is less than 40° F  
**and**
2. The air temperature is not greater than 50° F for more than one-half of any 24-hr period.

NC Department of Insurance  
Office of the State Fire Marshal - Engineering Division  
1202 Mail Service Center, Raleigh, NC 27699-1202  
919-661-5880

## Concrete Cold Weather Requirements

Code: 2012 Building Code  
Section: 1904.4

Date: September 1, 2011

### Question:

What is considered “cold weather” in terms of applying the cold weather requirements of ACI 318 to pouring concrete.

### Answer:

The NC codes require concrete construction to be accomplished in accordance with ACI 318-05. Section 5.12 of that document provides the very basics of “Cold weather requirements” and the commentary for this section states: “Recommendations for cold weather concreting are given in detail in “Cold Weather Concreting” reported by ACI Committee 306”. This report may be viewed at the following web link:

[http://www.ccagc.org/pdfs/ACI\\_306R-88\\_Cold\\_Weather\\_Concreting.pdf](http://www.ccagc.org/pdfs/ACI_306R-88_Cold_Weather_Concreting.pdf)

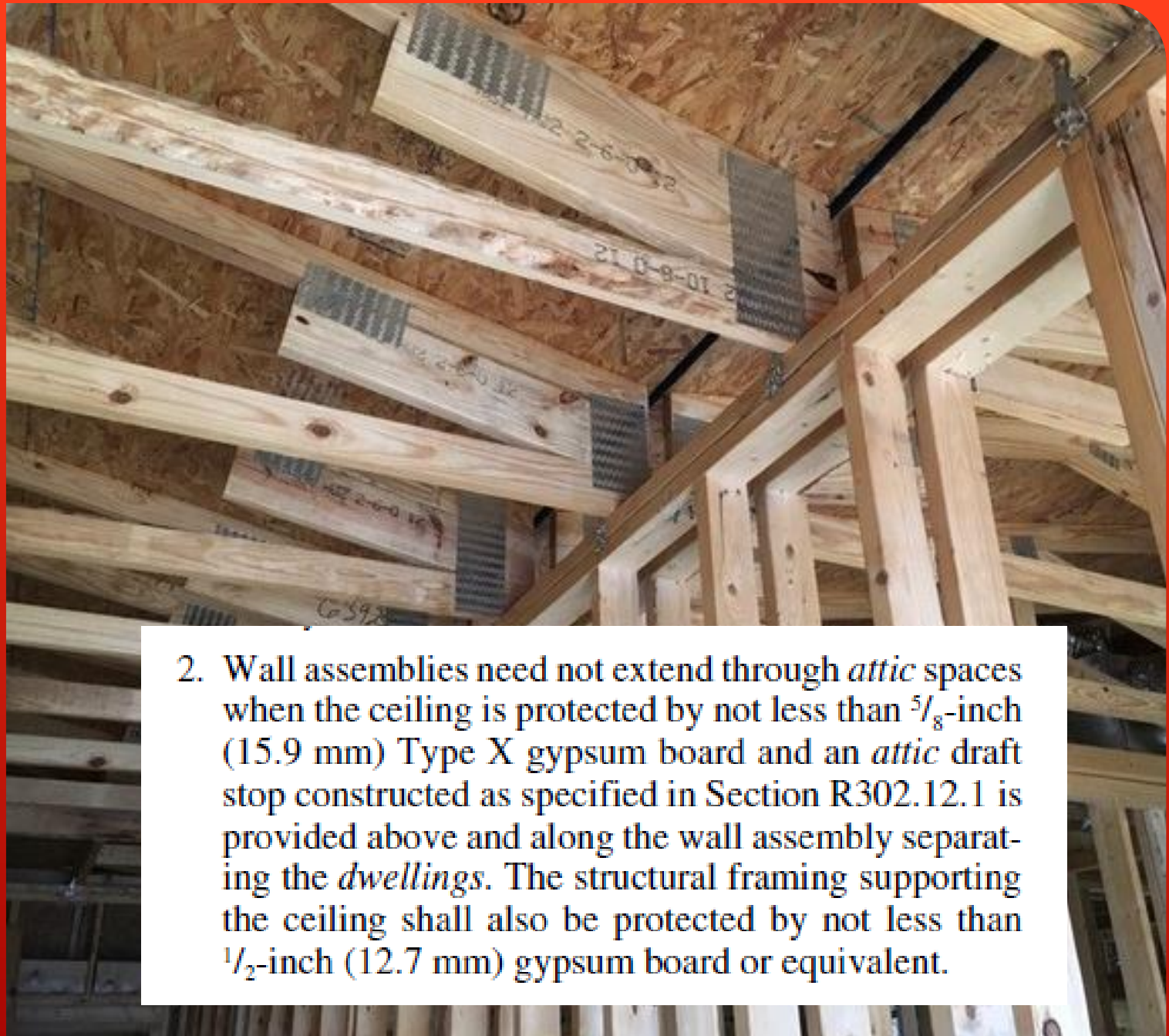
Section 1.1 of Cold Weather Concreting defines cold weather as “a period when, for more than three consecutive days, the following conditions exist: 1) the average daily air temperature is less than 40° F (5° C) and 2) the air temperature is not greater than 50° F (10° C) for more than one-half of any 24-hr period”.

### Keywords:

air entrained, air entrainment, freezing, footing

**Q: WHAT IS AN  
ALTERNATE WAY TO  
ACHIEVE FIRE  
SEPARATION IN A  
DUPLEX IF THE WALL  
DOES NOT GO TO  
THE UNDERSIDE OF  
THE ROOF  
SHEATHING?**

A: 5/8" Type X can be installed on the ceiling and attic draftstop along the wall (R302.3, exception #2)



2. Wall assemblies need not extend through *attic* spaces when the ceiling is protected by not less than  $\frac{5}{8}$ -inch (15.9 mm) Type X gypsum board and an *attic* draft stop constructed as specified in Section R302.12.1 is provided above and along the wall assembly separating the *dwellings*. The structural framing supporting the ceiling shall also be protected by not less than  $\frac{1}{2}$ -inch (12.7 mm) gypsum board or equivalent.



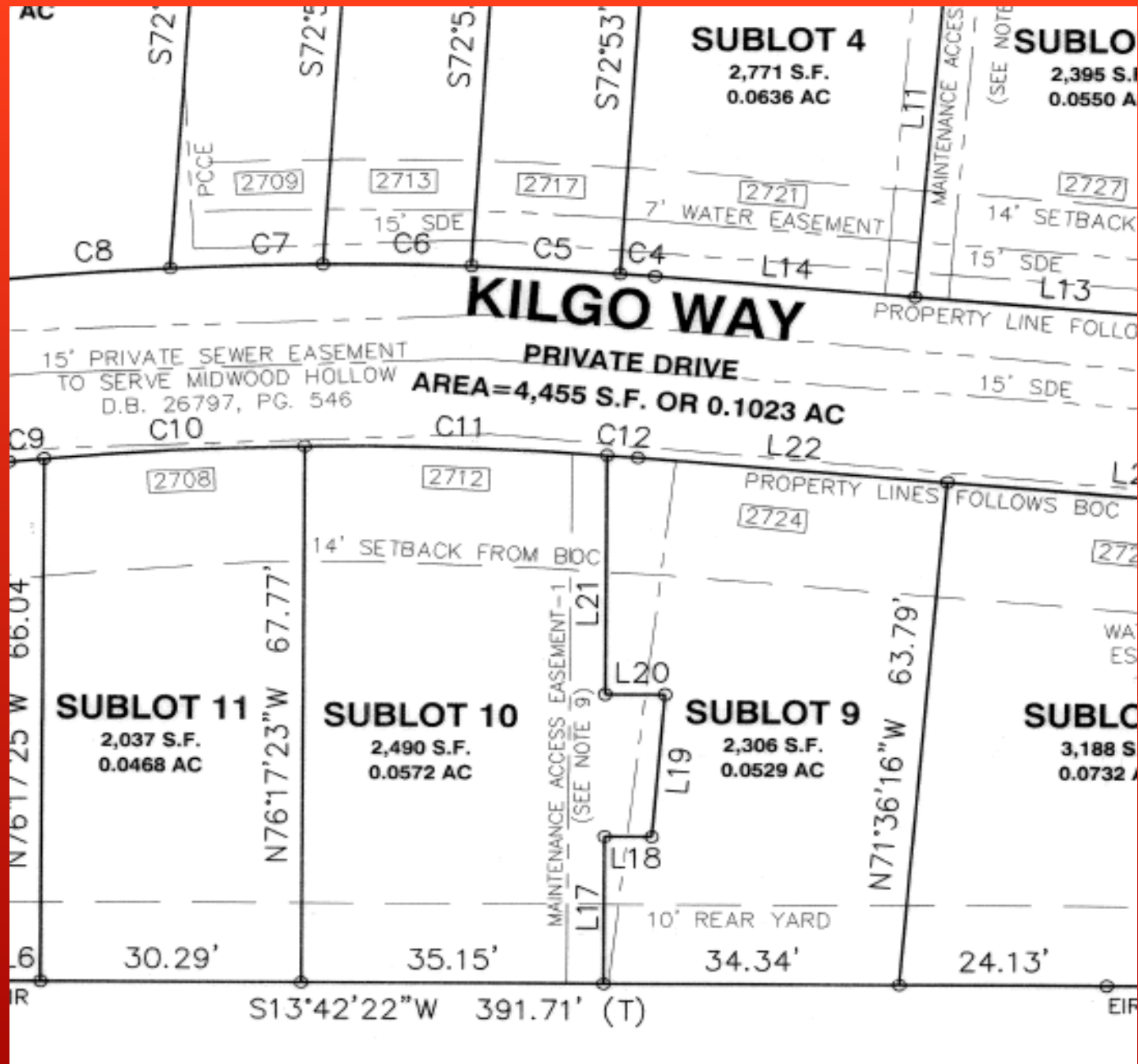
# Q: WHERE CAN FIRE SEPARATION DISTANCE BE MEASURED FROM?

A: The definition from section R202 tells us where but if these are too close, an easement may be arranged between owners and the FSD measured to that easement. Note: the street, alley or public way must be publicly deeded property – not private.

**FIRE SEPARATION DISTANCE.** The distance measured from the building face to one of the following:

1. To the closest interior *lot line*;
2. To the centerline of a street, an alley or public way; or
3. To an imaginary line between two buildings on the *lot*.

The distance shall be measured at a right angle from the face of the wall.



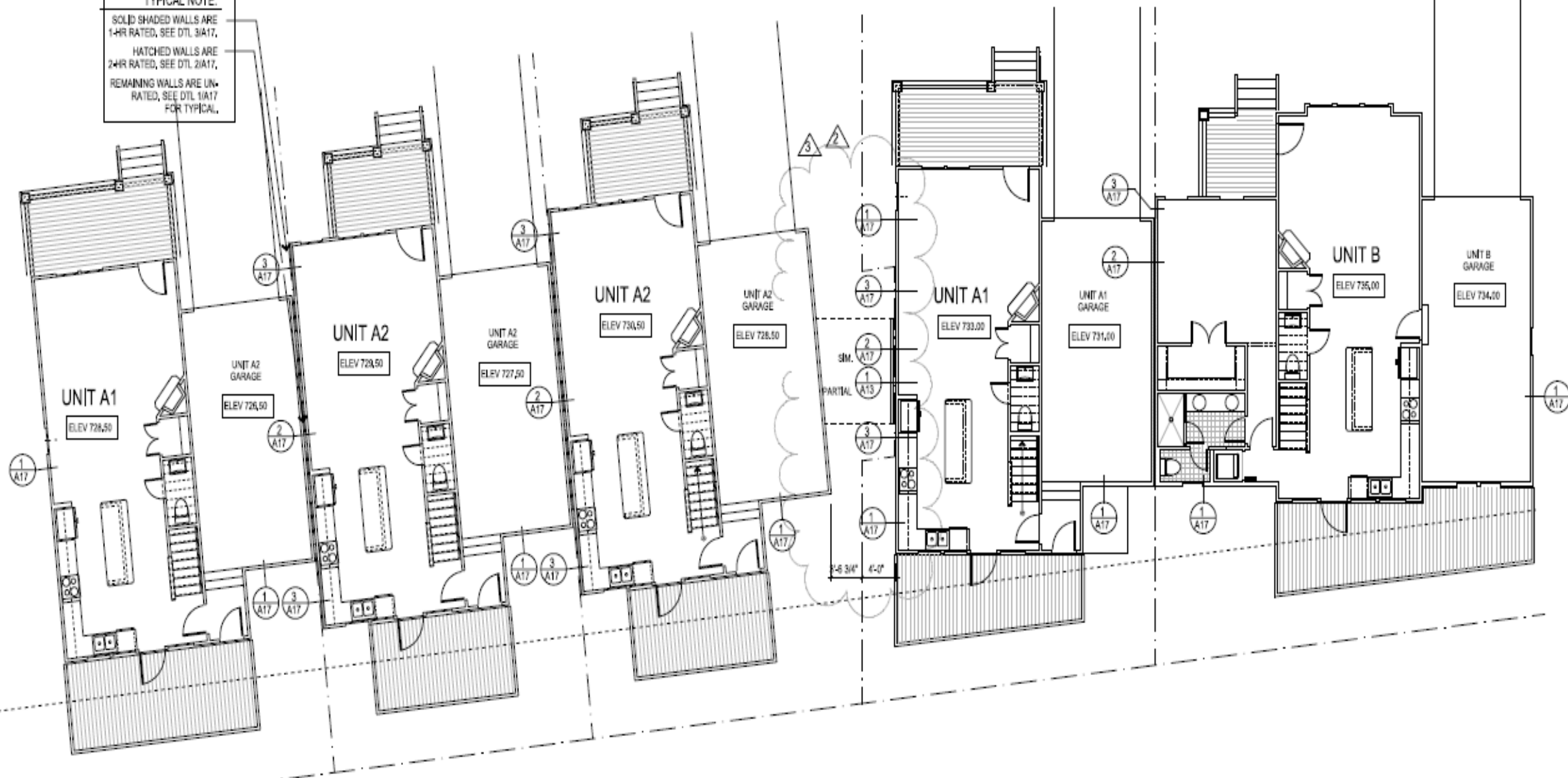
#### BUILDING 4

## BUILDING 3

**TYPICAL NOTE:**  
SOLID SHADED WALLS ARE  
1-HR RATED, SEE DTL 3/A17,  
HATCHED WALLS ARE  
2-HR RATED, SEE DTL 2/A17,  
REMAINING WALLS ARE UN-  
RATED, SEE DTL 1/A17  
FOR TYPICAL.

HATCHED WALLS ARE  
2-HR RATED, SEE DTL 2(A)17.

REMAINING WALLS ARE UN-  
RATED, SEE DTL 10A17  
FOR TYPICAL.



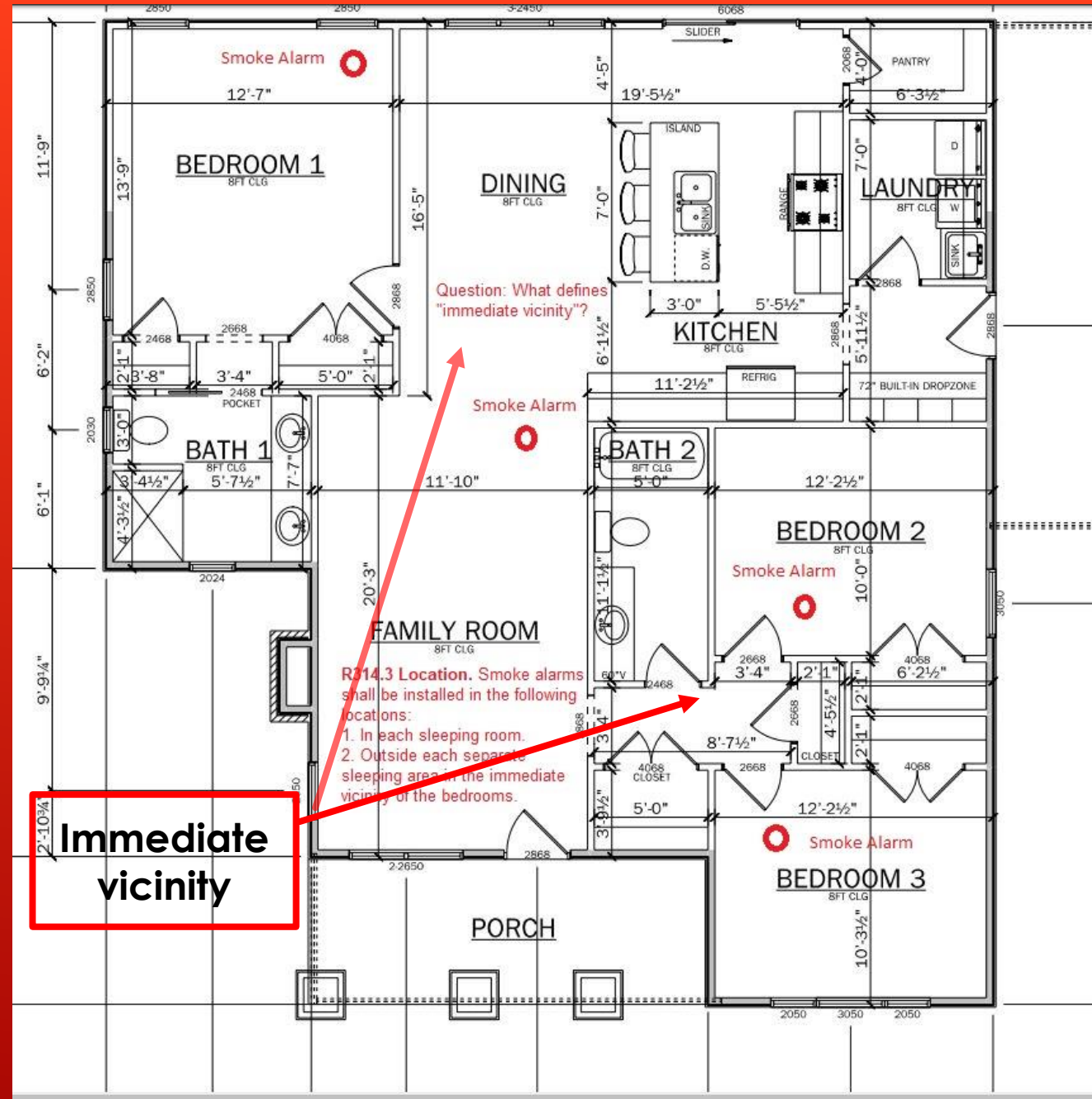


A maintenance easement was required for access to the back of the property. To accommodate this but not lose buildable space, the designer showed a 2<sup>nd</sup> story structure attached to one of the units. The pass-thru is for access but a property line and party wall divide the buildings



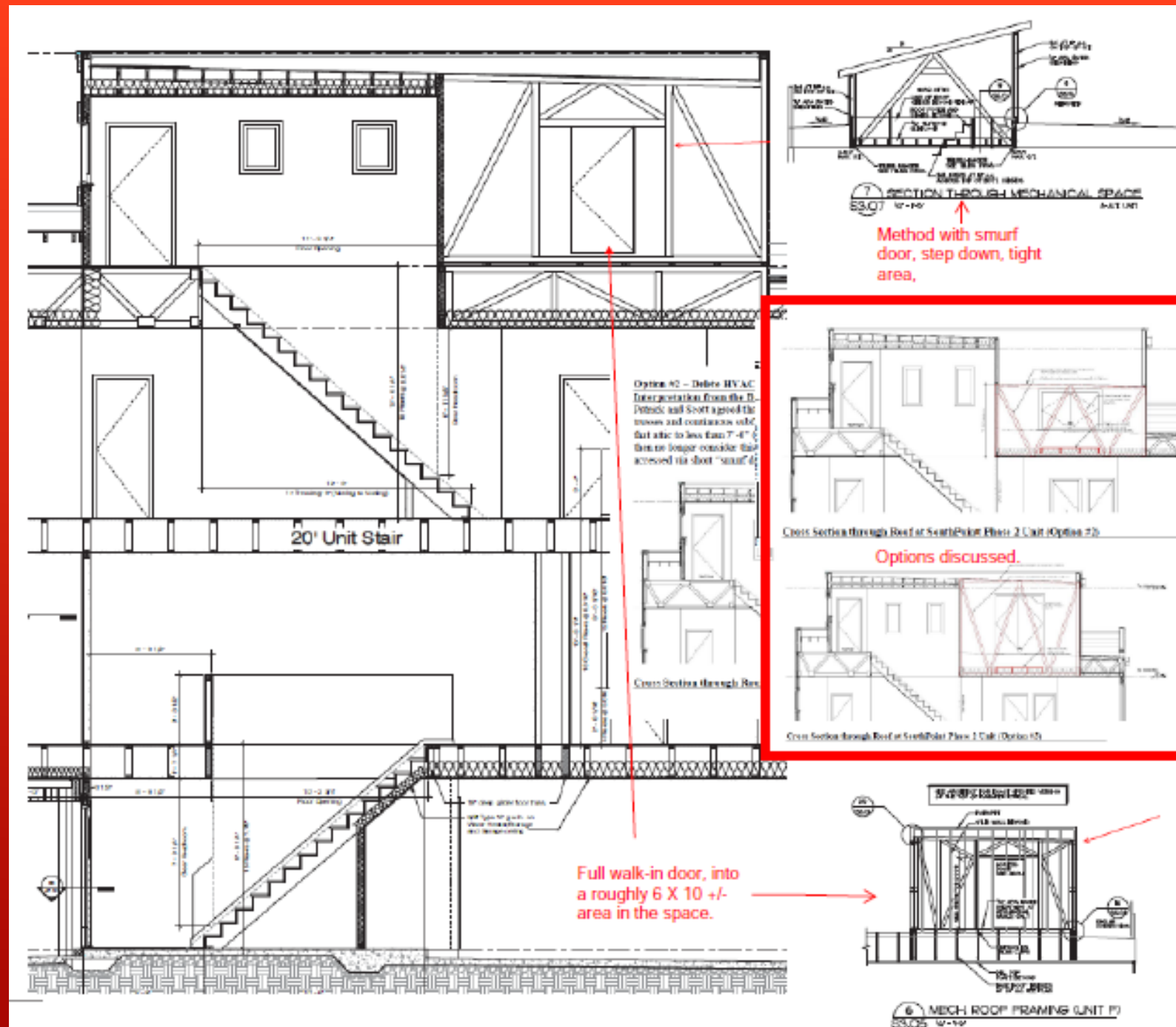
**Q: What defines  
“immediate vicinity?”**

A: This drawing does not show the smoke detector within the immediate vicinity of any of the bedrooms. The idea is to identify the smoke hazard outside the bedroom doors so occupants have time to react.

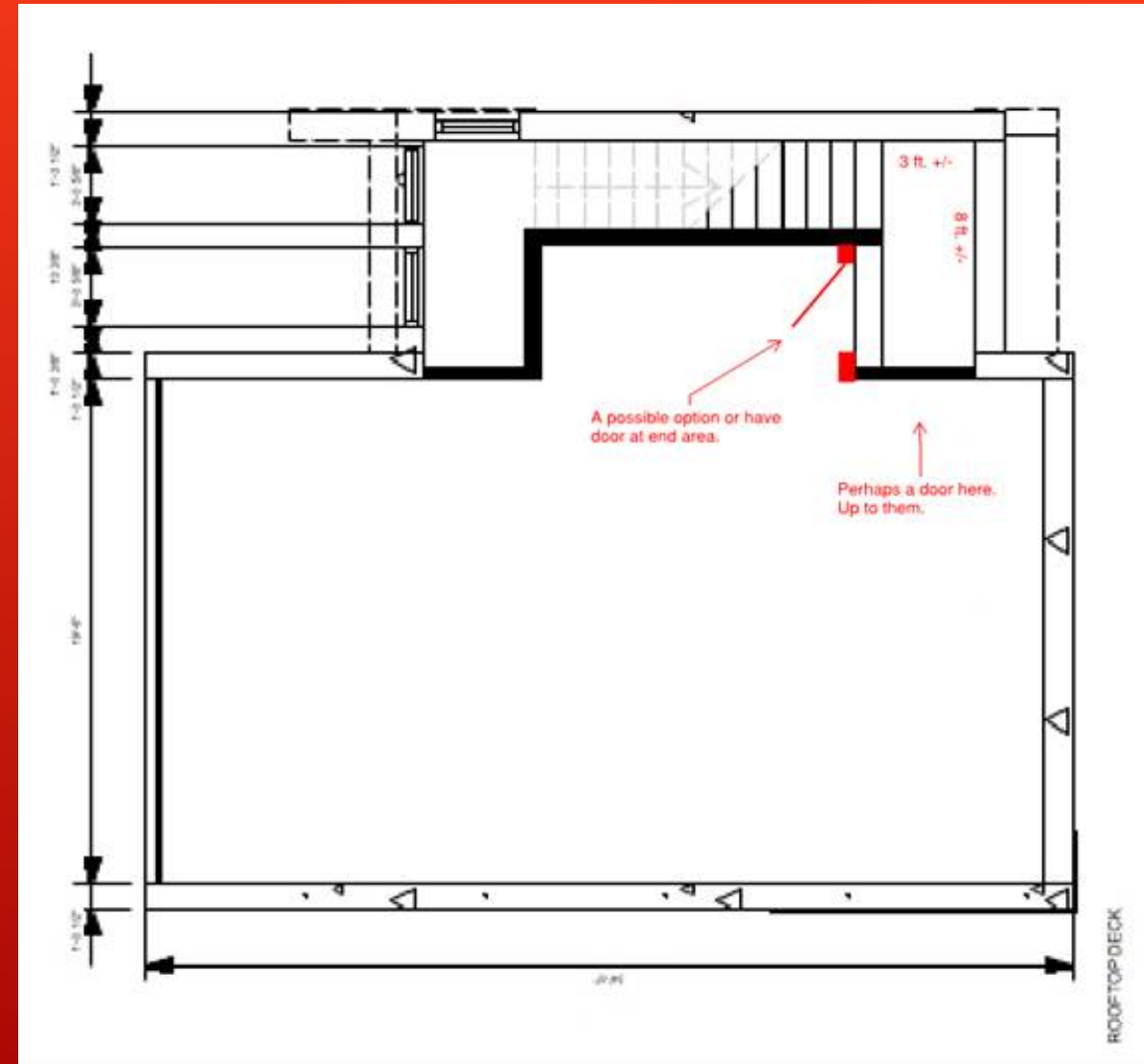
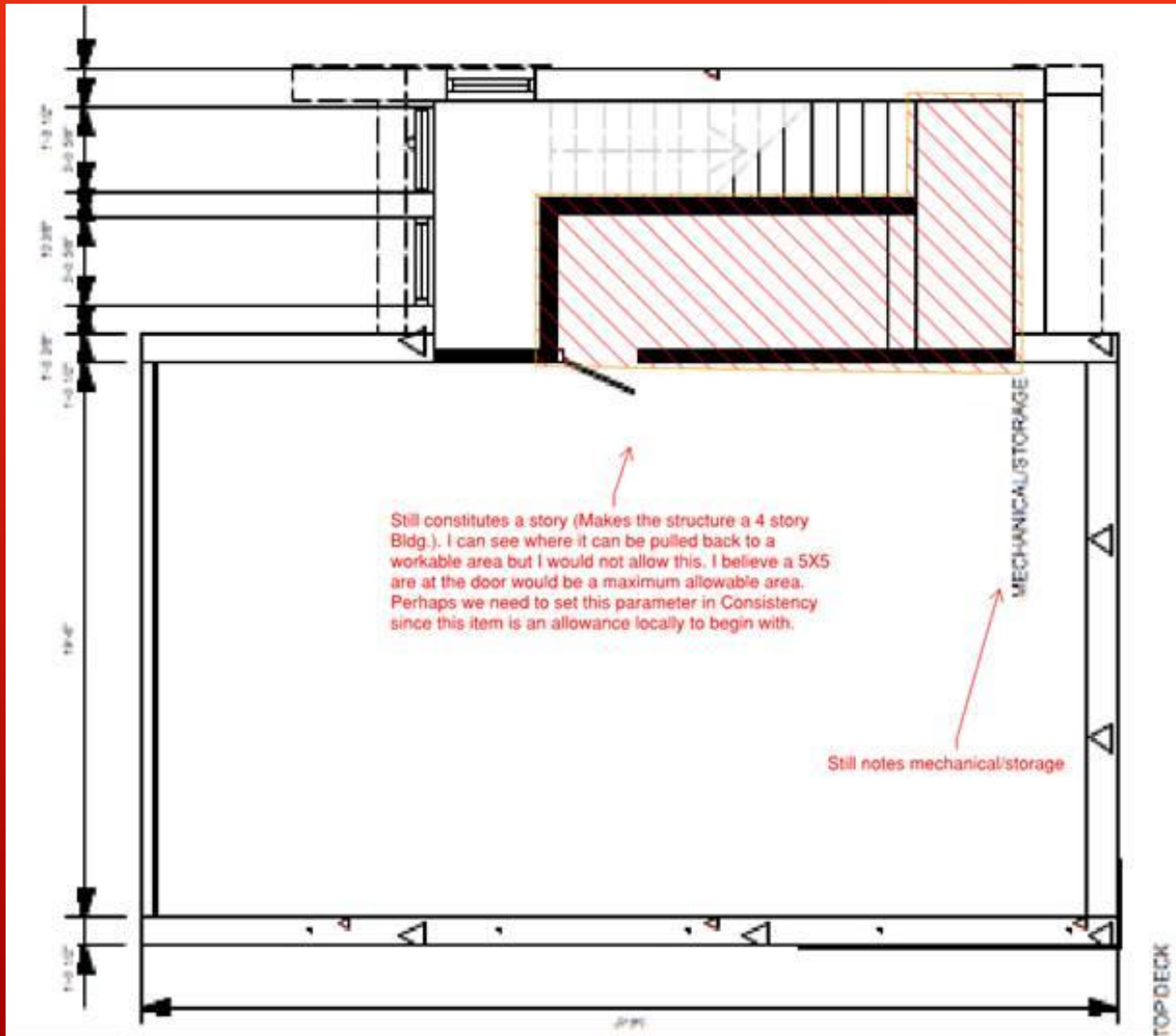


# Q: What is a fourth floor versus an occupied roof?

A: A story is defined by the measurement from a finished floor to ceiling joists or roof rafters above. The presence of both a floor and a roof constitutes a story.

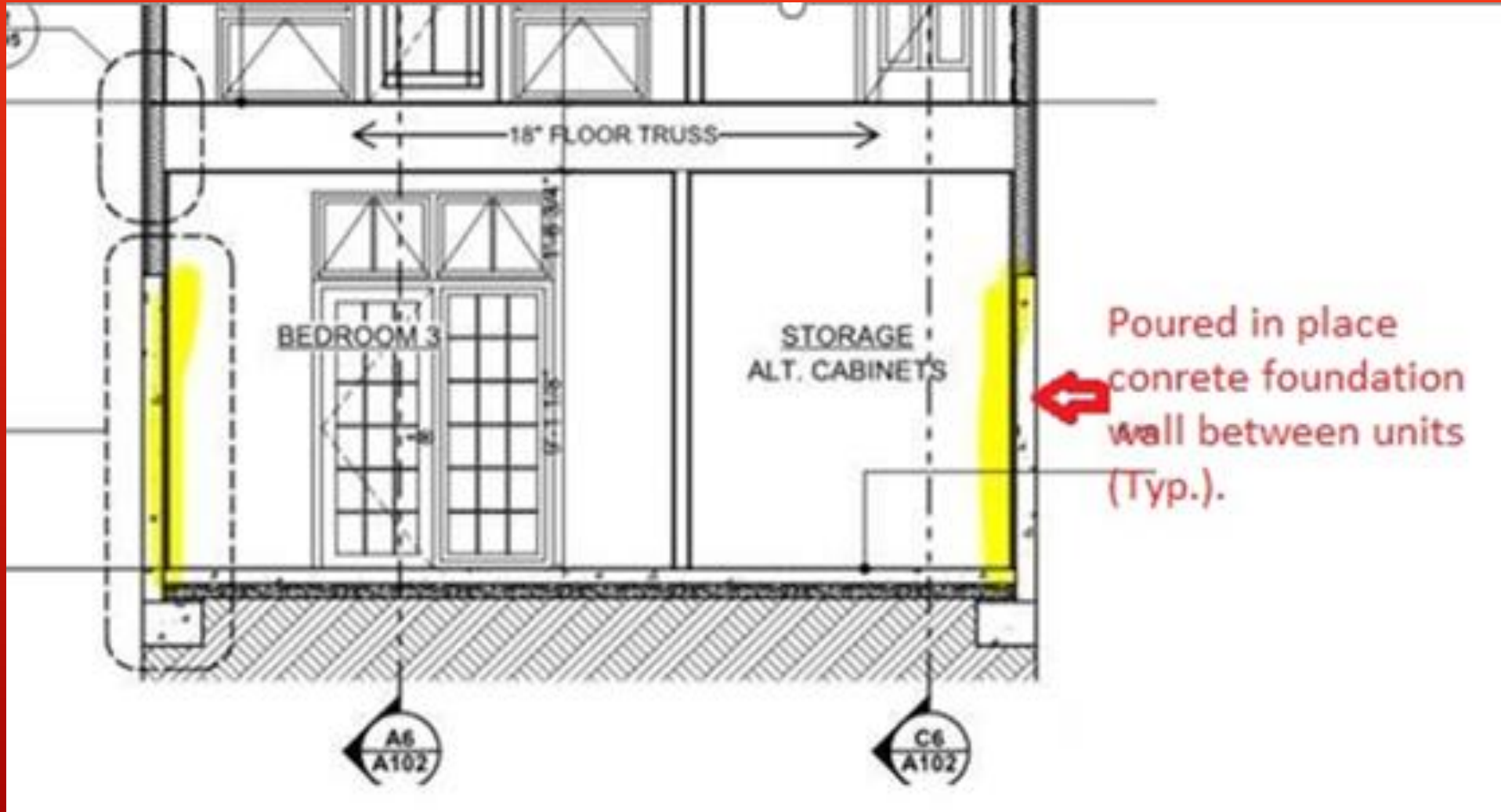


On all future projects with roof top decks, in regards to stair tower access to those roof top decks, all stair tower landings will be limited to a maximum 25 sq. ft. of area in the stair. That would be a stair flight, to the landing at the access to the deck, maximum 25 sq. ft.





**Q: Is insulation required on TH foundation walls that are above grade?**

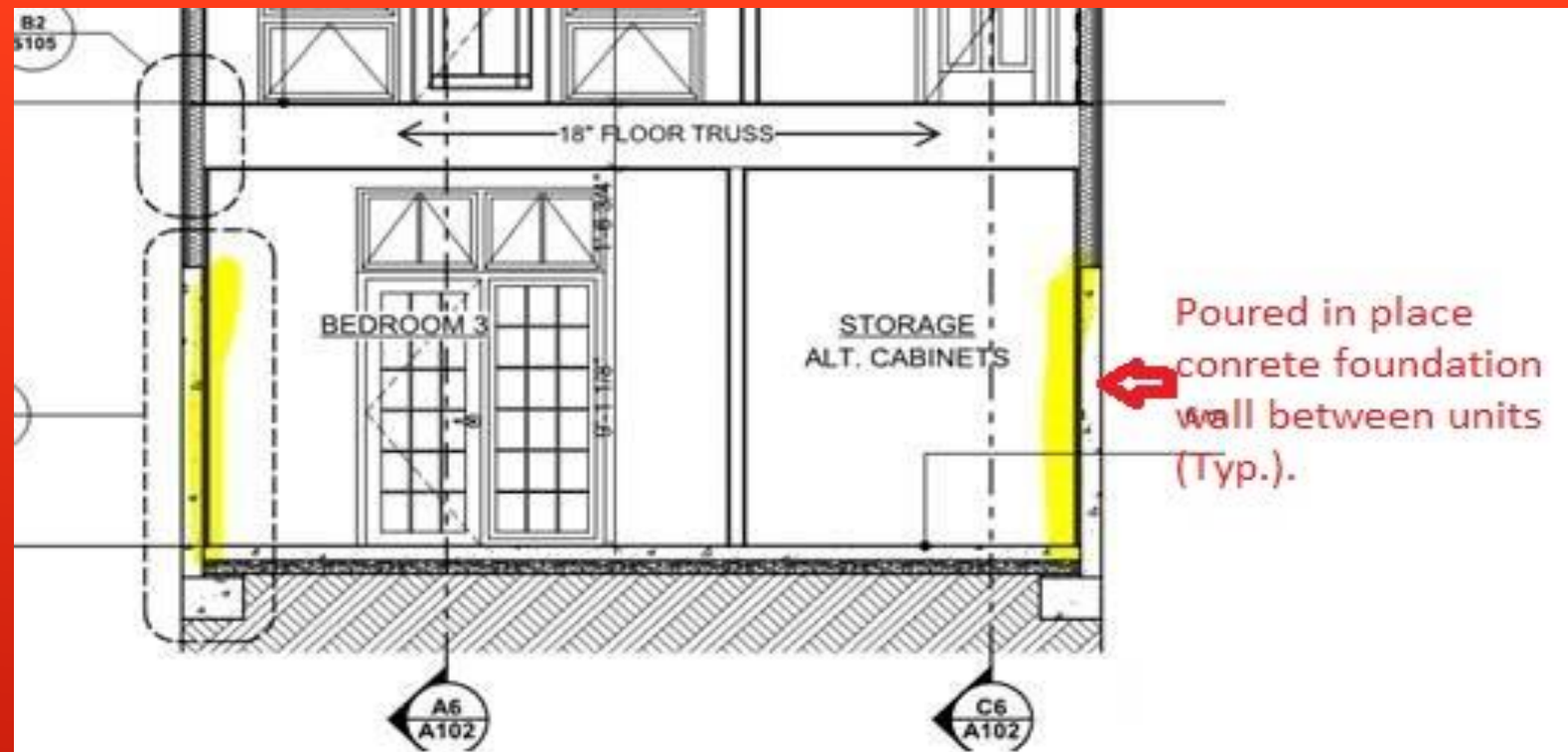




The interpretation is accurate; no insulation would be required for energy conservation code purposes in common walls separating townhomes designed for conditioned space on each side of the wall.

Thank you, Billy.

**Billy G. Hinton, Jr., PE**  
Chief Energy Conservation  
Code Consultant  
Code Services Section  
NC Department of Insurance  
Engineering Division  
325 N Salisbury St.  
Raleigh, NC 27603



Be advised, the architect and builder have elected to apply R-11 insulation in the area separation walls and not insulate the lower masonry/concrete foundation walls between units, which can be allowed based on the NCDOL – OSFM - Eng. & Codes Div. interpretation, ["Insulation Placement Between Multi-Family Dwelling Units"](#), dated July 3, 2012. The interpretation states the thermal envelope of the building, in its entirety, is the thermal envelope. Therefore, units cannot receive a final inspection for building aspect until the entire thermal envelope is in place and inspections passed for all units within the building.

# QUESTIONS?



# TRAINING TOPICS:

**Changes to General Contracting  
Law – Waties Greene, NCLBGC**

**Fireblocking & Draftstopping –  
Jeff Griffin**

Several thin, white, parallel diagonal lines are positioned in the bottom right corner of the slide, extending from the right edge towards the center.